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"Too Cold for a Ducking,,

If you're a duck hunter or a cold weather fisherman, then you should know what to expect should you accidentally be spilled or tumble into the water. Few persons realize just how suddenly and how completely the numbing, paralyzing fingers of cold water can put even the best of swimmers out of commission.

October will find waterfowl hunters trudging the lake and riversides or floating their favorite spots. They will be wearing about 17 pounds of clothing, some of which will be stuffed with shotgun shells. Just how long would such a man last should he suddenly find himself dunked in the river, and how can he better his chances for survival?

A check of water temperature records kept by the U. S. Geological Survey over many years shows that the height in Montana water temperatures peak out in late July and early August. By the end of September, most rivers are about 55 degrees Fahrenheit, by late October between 40 and 45, and from late November through March stream temperatures generally range from freezing to less than 40 degrees. What are your chances of keeping body and spirit together in water this cold? Chances are you will find yourself in real trouble within 5 minutes.

Of the several hundred reports on shipwreck survivors in the files of the Bureau of Medicine and Surgery, U. S. Navy, very few show survivors in water temperatures under 40 degrees Fahrenheit. Many of the atrocities committeed at German concentration camps during World War II, were aimed at testing the extremes of human body endurance. The **Pennsylvania Angler** wrote of subjecting human guinea pigs to cold water thusly: "Dr. S. Rascher, a member of the medical staff of the German S. S. conducted experiments on shock from prolonged exposure to cold water on human beings. '. . .Most of Dr. Rascher's prisoners were Jews along with a few Catholic priests from Poland. In most cases, they were dressed in the usual flying equipment of aviators, including a life jacket consisting of rubber or kapok. In other cases, they were naked. Rectal temperatures and skin temperatures were recorded. The water temperature varied between 35 degrees F. and 53 degrees F. Ice was added to the water to maintain desired temperature.

"When subjects were pushed into the water, they let out an agonized scream and showed a marked chill. Especially painful was the chilling of the neck and occiput (the lower back part of the head). In five minutes, the arms started to become rigid in a flexed position pressed against the body, followed by the rigidity of other muscles. After ten minutes, there was a definite lowering in the intensity of perception of pain. Rapid, jerky convulsions began and speaking became difficult because the rigidity extended to the muscles of speech. Then a marked inhibition of breathing made its appearance followed by a profuse oversecretion of mucus. Vesicular foam formed around the mouth. After twenty minutes, the frequence of respirations began to drop. Consciousness bacame clouded. Pupils became dialated. The gaze was fixed upward. The heart action showed constant and characteristic changes which were the same in all experimental subjects. The heartbeat became irregular gradually developing into a slow type irregularity that ended with a sudden standstill and a fatal outcome.

"Dr. Rascher found the timed sequence of events varied very little between subjects. . ."

For the person who has been dunked in cold water, authorities advise that they conserve heat by moving as little as possible. This, incidentally, is compatible with best lifesaving techniques also, for threshing about releases trapped air from clothing and makes it more difficult to remain afloat. All clothing should remain on, including gloves or mittens and definitely headgear. If there is an overturned boat or other floating debris, the victim should pull himself out of the water as far as possible. If possible, water should be rung from a hat or cap and it should then be replaced.

Every attempt must be made to prevent panic and hold trapped air in all parts of the clothing, including boots. Trapped air will help make the body buoyant. There are many tricks of bringing air into the clothing, but these procedures should be learned and practiced beforehand lest there be more damage than good done. If decoys or other buoyant objects are near at hand, they may be stuffed inside the jacket to help float the body. Though it is imperative to get out of cold water as soon as possible, swimming should not include a crawl stroke. Arms should be kept underwater and moved smoothly in a modified breast stroke or back stroke.

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Once out of the water, the body must be warmed as quickly as possible. Rapid rewarming in hot water (not so hot as to cause tissue damage) has been found to be the most effective method. The use of alcohol as a rewarming agent is not recommended because it has been found that the heart continues to beat irregularly for about two hours after badly chilled subjects are removed from water. Alcohol has also been found to accelerate the loss of body heat if taken before the dunking. Rubbing the skin to stimulate circulation can be harmful in the event there is frozen tissue.

No one wants to fall into the water fully clothed even under the best of conditions, but the cold weather hunter or fisherman should take extra precautions to observe all rules of safety.

Big Game Checking Stations

By Fred L. Hartkorn

Game Management Biologist

Big game checking stations have been operated at various points in west-central Montana since the mid 1930's. A total of 10,843 elk, 9,931 mule deer, and 4,374 whitetailed deer have been checked through these stations since 1950. The main purpose for operating game checking stations is to obtain biological information (sex, age and condition) from a sample of the animals harvested. Other purposes are as an information service to hunters, to determine when an adequate harvest has been attained in certain areas, to learn the source and number of hunters, and to learn where the animals are harvested.

A summary of animals and hunters checked at stations operated since 1950 in Fish and Game District Two follows:

Big game checking stations have been a part of game management in Montana since the mid 1930's.

	Elk	Mule Deer	Whitetailed deer	Bear	Hunter trips
Anaconda (1956-58-60-69)	388	633	33	5	3,080
Bonner (1950-68)	2,715	2,957	3,744	101	38,860
Darby (1953-68)	6,952	5,738	82	112	35,460
Frenchtown (1958-59-60-63)	443	475	432	26	4,050
St. Regis (1965-66-67)	345	128	83	10	2,730
	10,843	9,931	4,374	254	84,180

The **Darby checking station,** located about one mile south of Darby in the Bitterroot Valley, has been manned full-time each hunting season since 1953. The length of the elk season in the upper Bitterroot drainage has been based on a predetermined number of elk to be checked at this station. This method of regulating harvest has worked well in the upper Bitterroot where most of the hunters must pass the station as they return from hunting. The elk quotas have been based on trends on the condition of elk winter range, game populations, game harvests, and conflicts between game and other land uses.

In the upper Bitterroot during the period 1956-1966, the elk and deer season opened during the latter part of September and most years did not close until after seasons closed in other hunting districts. This provided information on game killed during early seasons (approximately September 18-October 18), regular seasons (approximately October 19-November 19), and extended (November 20-December 20) seasons. A summary of sex and age of elk checked by time periods in the upper Bitterroot is shown on the following page.

It can be seen that the proportion of bulls taken dropped off and the proportion of cows increased as the season progressed. This is probably because of the bugling behavior of the bulls, making them easier to bag early during the rutting season.

Most animals were taken during the regular season period when snow began to help the hunter, but elk were taken at a greater daily rate during the extended period, which was usually of shorter duration.

Whenever possible, animals have been aged by tooth replacement and wear. Aging has shown that the proportion of old animals has decreased. This is a desirable trend and an indication of better production, greater harvest, and less loss

	Bulls	Cows	Calves	Total Checked
Early season	50%	35%	15%	1,641
Regular season	40%	41%	19%	1,809
Extended season	35%	46%	19%	1,662

Elk checked by time periods in the upper Bitterroot.

Mule Deer	Bucks		Does	
	No.	Weight Average	No.	Weight Average
Fawns	19	57.9	20	56.8
Yearlings	53	104.6	30	92.5
2½ Years	33	134.8	22	105.9
Prime (3½–7½)	69	164.4	20	112.6
Old (8½+)	4	171.5	4	110.0
Whitetailed Deer	**Bucks**		**Does**	
	No.	Weight Average	No.	Weight Average
Fawns	47	60.0	41	54.9
Yearlings	55	108.9	38	97.2
2½ Years	23	136.8	17	106.2
Prime (3½–7½)	99	165.4	27	110.5
Old (8½+)	7	168.0	5	107.0

Average weights of field dressed deer from the Blackfoot area.

to old age. At the Darby station, where the largest yearly sample has been obtained, elk were checked by a ratio of 21 yearlings per 100 older elk during 1958-59 compared to 87 in 1965-66. Mule deer were checked in the ratio of 63 yearlings per 100 older deer in 1958-59-60, compared to 108 in 1965-66.

Higher proportions of yearling males than yearling females are taken by hunters. At Darby this is reflected by a ratio of 139 yearling bucks per 100 older bucks, and 49 yearling does per 100 older does. For elk there were 107 yearling bulls per 100 older bulls and 32 yearling cows per 100 older cows from 1961 to 1966. Apparently the yearling males are more vulnerable than the yearling females.

Usually the harvest of young deer and elk is proportionately higher during the forepart of the season than during the last portion. The reason for this may be that older animals stay in remote areas until they are forced down by snow.

A higher proportion of whole elk and deer carcasses, with heads attached, have been brought through the checking station in recent years, compared to 10-15 years ago. This is believed due to more animals being killed within dragging distance of a road than in former times. As more roads are built for timber removal, fewer animals are "packed" out. This has made it possible for the game checkers to determine the ages of more animals in recent years.

The **Bonner checking station** has been operated nearly every year since 1950. **There has been a trend toward higher proportions of mule deer and elk, and fewer whitetails in the harvest in recent years.** From 1950-1954, 63% of the deer checked were whitetails, but from 1961 to 1968, only 52% of the deer checked were whitetails. The ratio of elk to deer was 36 elk per 100 deer from 1950 to 1960, compared to 55 elk per 100 deer from 1961 to 1968.

Hunters have tended to kill a higher proportion of buck deer during the past few years (42% antlered during 1956-1960 and 57% antlered during 1966-1968 of the deer checked at Bonner). This could indicate a difference in attitude of the hunters between a period when two deer were allowed compared to a period when only one deer was allowed.

Field dressed deer (head and legs still intact) were weighed at Bonner in 1951, 1962, 1964, and 1965. No significant difference between years in average weight for the various aged deer has been found. This is believed due to the fact that all younger deer at least are fat after being on lush feed all summer and early fall. The tabulation at left shows average weights of deer from the Blackfoot.

In spite of more big game licenses being sold in western Montana, the number of hunters stopping at checking stations has declined. An

PHOTO BY STEVE BAYLESS

Steve Bayless, Game Management Biologist, has measured for Boone and Crockett records a whitetail rack that he feels is the largest ever scored in the state. In fact, he feels it will rank about 5th in North American big game records maintained by the Boone and Crockett Club.

The deer was killed by Frank Pleskac, an area resident, November 11, 1968 north of Havre along the west Fork of the Milk River. Pleskac, a farmer-rancher north of Havre, had been hunting this particular whitetail for several years.

average of 2800 hunter trips was checked annually in 1950-61, compared to 1850 hunter trips annually in 1962-1968 at Bonner. There has been a similar long-range trend at Darby. Cooperation at game checking stations is voluntary on the part of the hunter, as Montana does not have any law that requires a hunter to stop at checking stations. Therefore, it is suggested that cooperation of hunters checked is mostly the result of hunters learning that we are primarily interested in the animals they kill, so they do not stop if unsuccessful.

It seems that about 90% of the successful hunters and 10% of the unsuccessful hunters stop at stations located on major highways in recent years (based on many checked tallies of red-hatted people not stopping). Where stations are located on secondary dirt roads nearly all of the hunter vehicles stop but samples of game are usually small. Highway department truck weighing stations have been found to provide the safest sites for long term game checking operations by providing adequate space and access off and back onto the highways.

Checking station operators are instructed to make a conscientious effort to minimize the time that hunters are delayed while their game is checked and to always get permission to cut-open or remove lower jaw bones before doing it. Area maps are made available to the hunters free of charge through the cooperation of the Forest Service and B.L.M.

A Montana checking station law similar to the one in effect in Idaho would make checking stations more efficient. The Idaho law is as follows: "PRODUCTION OF GAME FOR INSPECTION—REPORT AT CHECKING STATIONS. Every person shall, upon request of the director or his authorized representatives, produce for inspection, game birds, game animals, fish, or fur-bearing animals in his possession. All hunters or fishermen leaving areas for which checking stations have been provided for the purpose of inspecting licenses and game must stop and report at such checking station, provided that the station is on the hunter's or fisherman's route of travel from the hunting or fishing areas. Failure of a hunter or fisherman to stop and report at such a checking station shall be deemed guilty of a misdeameanor, and upon conviction, shall be punished as provided in Section 26-324."

Such a law would make it possible to obtain more complete biological information on the game animals killed, to more accurately assess hunting pressure, to enforce the game laws more efficiently, and to improve the overall game management program.

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